Technical Aspect: More Information

For updates of the Business Employment Dynamics series, please refer to the BLS Web site at http://www.bls.gov . For more information, please see the Technical Note of this release or the Business Employment Dynamics Web page at the BLS Web site http://www.bls.gov/bdm/ . Additional information about the Business Employment Dynamics data may be obtained by e-mailing BDMinfo@bls.gov .

Comparing Business Employment Dynamics Data with Current Employment Statistics and Quarterly Census of Employment and Wages Data

The net change in employment from Business Employment Dynamics (BED) data series will not match the net change in employment from the monthly Current Employment Statistics (CES) survey. The CES estimates are based on monthly surveys from a sample of establishments, while gross job gains and gross job losses are based on a quarterly census of administrative records. In addition, the CES has a different coverage, excluding the agriculture sector but including establishments not covered by the unemployment insurance program. The net over-the-quarter changes derived by aggregating component series in the BED data may be different from the net employment change estimated from the CES seasonally adjusted total employment series. The intended use of the BED statistics is to show the dynamic labor market flows that underlie the net changes in aggregate employment levels; data users who want to track net changes in aggregate employment levels over time should refer to CES data.

BED data have a more limited scope than the Quarterly Census of Employment and Wages (QCEW) data. The data in this release, in contrast to the QCEW data, exclude government employees, private households (NAICS 814110), and establishments with zero employment.

See the Technical Note for further information.

Technical Note

The Business Employment Dynamics (BED) data are a product of a federal-state cooperative program known as Quarterly Census of Employment and Wages (QCEW), or the ES-202 program. The BED data are compiled by the U.S. Bureau of Labor Statistics (BLS) from existing quarterly state unemployment insurance (UI) records.

Most employers in the U.S. are required to file quarterly reports on the employment and wages of workers covered by UI laws, and to pay quarterly UI taxes. The quarterly UI reports are sent by the Idaho Department of Labor to BLS and form the basis of the Bureau's establishment universe sampling frame.

These reports also are used to produce the quarterly QCEW data on total employment and wages and the longitudinal BED data on gross job gains and losses. Other important Bureau uses of the UI reports are in the Current Employment Statistics (CES) program. (See table below for differences between QCEW, CES, and BED.)

In the BED program, the quarterly UI records are linked across quarters to provide a longitudinal history for each establishment. The linkage process allows the tracking of net employment changes at the establishment level, which in turn allows the estimation of jobs gained at opening and expanding establishments and jobs lost at closing and contracting establishments.

Differences between QCEW, BED, and CES employment measures

The Bureau publishes three different establishment-based employment measures for any given quarter. Each of these measures--QCEW, BED, and CES--makes use of the quarterly UI employment reports in producing data; however, each measure has a somewhat different universe coverage, estimation procedure, and publication product.

Differences in coverage and estimation methods can result in somewhat different measures of over-the-quarter employment change. It is important to understand program differences and the intended uses of the program products. (See table below.) Additional information on each program can be obtained from the program Web sites shown in the table on the following page.

Summary of Major Differences between QCEW, BED, and CES Employment Measures

	QCEW	**BED**	**CES**
Source	--Count of UI administrative records submitted by 9.1 million employers nationally	--Count of longitudinally-linked UI administrative records submitted by 7.3 million private sector employers	--Sample survey: 400,000 employers nationally

Coverage	--UI and UCFE coverage: all employers subject to state and federal UI Laws	--UI Coverage, excluding: government, private households, and establishments with zero employment	Nonfarm wage and salary jobs: --UI Coverage, excluding agriculture, private households, and self-employed --Other employment, including railroads, religious organizations, and other non-UI-covered jobs
Publication frequency	--Quarterly -7 months after the end of each quarter	--Quarterly -8 months after the end of each quarter	--Monthly -Usually first Friday of following month
Use of UI file	--Directly summarizes and publishes each new quarter of UI data	--Links each new UI quarter to longitudinal database and directly summarizes gross job gains and losses	--Uses UI file as a sampling frame and annually realigns (benchmarks) sample estimates to first quarter UI levels
Principal products	--Provides a quarterly and annual universe count of establishments, employment, and wages at the county, MSA, state, and national levels by detailed industry	--Provides quarterly employer dynamics data on establishment openings, closings, expansions, and contractions at the national level --Future expansions will include data at the state level by industry and size of establishment	--Provides current monthly estimates of employment, hours, and earnings at the MSA, state, and national level by industry
Principal uses	--Major uses include: -Detailed locality data -Periodic universe counts for bench marking sample survey estimates -Sample frame for BLS establishment survey	--Major uses include: -Business cycle analysis -Analysis of employer dynamics underlying economic expansions and contraction by size of establishment	--Major uses include: -Principal national economic indicator -Official time series for employment change measures -Input into other major economic indicators
Program web sites	http://www.bls.gov/cew/	http://www.bls.gov/bdm/	http://www.bls.gov/ces/

Coverage

Employment and wage data for workers covered by state UI and Unemployment Compensation for Federal employees (UCFE) laws are compiled from quarterly contribution reports submitted to the Idaho Department of Labor by employers.

In addition to the quarterly contribution reports, employers who operate multiple establishments within a state complete a questionnaire, called the "Multiple Worksite Report," which provides detailed information on the location of their establishments. These reports are based on place of employment rather than place of residence. UI and UCFE coverage is broad and basically comparable from state to state.

Major exclusions from UI coverage are self-employed workers, religious organizations, most agricultural workers on small farms, all members of the Armed Forces, elected officials in most states, most employees of railroads, some domestic workers, most student workers at schools, and employees of certain small nonprofit organizations.

Gross job gains and gross job losses in this release are derived from longitudinal histories of over 6.8 million private sector employer reports out of 9.1 million total reports of employment and wages submitted during the first quarter of 2009.

Gross job gains and gross job losses data in this release do not report estimates for government employees or private households (NAICS 814110), and do not include establishments with zero employment over three quarters. As an illustration, the table below shows, in millions of establishments, the number of establishments excluded from the gross job gains and gross job losses data in the first quarter of 2009:

Number of active establishments included in Business Employment Dynamics data

Millions

Total establishments QCEW program 9.1

Excluded:
Public sector 0.3
Private households 0.7
Zero employment 1.3

Total establishments included in
Business Employment Dynamics data… 6.8

Concepts and methodology

The Business Employment Dynamics data measure the net change in employment at the establishment level. These changes come about in one of four ways.

A ***net increase*** in employment can come from either opening establishments or expanding establishments.

A ***net decrease*** in employment can come from either closing establishments or contracting establishments.

Gross ***job gains*** include the sum of all jobs added at either opening or expanding establishments.

Gross ***job losses*** include the sum of all jobs lost in either closing or contracting establishments.

The ***net change*** in employment is the difference between gross job gains and gross job losses.

The formal definitions of establishment-level employment changes are as follows:

Openings These are either establishments with positive third month employment for the first time in the current quarter, with no links to the prior quarter, or with positive third month employment in the current quarter following zero employment in the previous quarter.

Expansions These are establishments with positive employment in the third month in both the previous and current quarters, with a net increase in employment over this period.

Closings These are either establishments with positive third month employment in the previous quarter, with no employment or zero employment reported in the current quarter.

Contractions These are establishments with positive employment in the third month in both the previous and current quarters, with a net decrease in employment over this period.

All establishment-level employment changes are measured from the third month of each quarter. Not all establishments change their employment levels; these establishments count towards estimates of total employment, but not for levels of gross job gains and gross job losses.

Gross job gains and gross job losses are expressed as rates by dividing their levels by the average of employment in the current and previous quarters. This provides a symmetric growth rate. The rates are calculated for the components of gross job gains and gross job losses and then summed to form their respective totals. These rates can be added and subtracted just as their levels can. For instance, the difference between the gross job gains rate and the gross job losses rate is the net growth rate.

The linkage process matches establishments' unique Idaho Department of Labor identification numbers. Between 95 to 97 percent of establishments identified as continuous from quarter to quarter are matched by -ID. The rest are linked in one of three ways.

The first method uses predecessor and successor information, identified by the states, which relates records with different Idaho Department of Labor -IDs across quarters. Predecessor and successor relations can come about for a variety of reasons, including a change in ownership, a firm restructuring, or a UI account restructuring.

If a match cannot be attained in this manner, a probability-based match is used. This match attempts to identify two establishments with different Idaho Department of Labor -IDs as continuous. The match is based upon comparisons such as the same name, address, and phone number. Third, an analyst examines unmatched records individually and makes a possible match.

In order to ensure the highest possible quality of data, the Idaho Department of Labor verifies with employers and updates, if necessary, the industry, location, and ownership classification of all establishments on a 3-year cycle.

Changes in establishment classification codes resulting from the verification process are introduced with the data reported for the first quarter of the year. Changes resulting from improved employer reporting also are introduced in the first quarter.

Seasonal adjustment

Over the course of a year, the levels of employment and the associated job flows undergo sharp fluctuations due to such seasonal events as changes in the weather, reduced or expanded production, harvests, major holidays, and the opening and closing of schools. The effect of such seasonal variation can be very large.

Because these seasonal events follow a more or less regular pattern each year, their influence can be eliminated by adjusting these statistics from quarter to quarter. These adjustments make nonseasonal developments, such as declines in economic activity, easier to recognize.

For example, the large number of youths taking summer jobs is likely to obscure other changes that have taken place in June relative to March, making it difficult to determine if the level of economic activity has risen or declined. However, because the effect of student's finishing school in previous years is known, the statistics for the current year can be adjusted to allow for a comparable change. The adjusted figures provide a more useful tool with which to analyze changes in economic activity.

The employment data series for opening, expanding, closing, and contracting establishments are independently seasonally adjusted; net changes are calculated based on the difference between gross job gains and gross job losses.

Similarly, the establishment counts data series for opening, expanding, closing, and contracting establishments are independently adjusted, and the net changes are calculated based on the difference between the number of opening and closing establishments. Additionally, establishment and employment levels are independently seasonally adjusted to calculate the seasonally adjusted rates. Concurrent seasonal adjustment is run using X-12 ARIMA.

The net over-the-quarter change derived by summing the BED component series will differ from the net employment change estimated from the seasonally adjusted total private employment series from the CES program.

The intended use of BED statistics is to show the dynamic labor market changes that underlie the net employment change statistic. As such, data users interested particularly in the net employment change and not in the gross job flows underlying this change should refer to CES data for over-the-quarter net employment changes.

Reliability of the data

Since the data series on Business Employment Dynamics are based on administrative rather than sample data, there are no issues related to sampling error. Nonsampling error, however, still exists. Nonsampling errors can occur for many reasons, such as the employer submitting corrected employment data after the end of the quarter or typographical errors made by businesses when providing information. Such errors, however, are likely to be distributed randomly throughout the dataset.

Changes in administrative data sometimes create complications for the linkage process. This can result in overstating openings and closings while understating expansions and contractions. The BLS continues to refine methods for improving the linkage process to alleviate the effects of these complications.

Additional statistics and other information

Several other programs within BLS produce closely related information. The QCEW program, also known as the ES-202 program, provides both quarterly and annual estimates of employment by state, county, and detailed industry. News releases on quarterly county employment and wages and average annual pay by state and industry are available upon request from the Division of Administrative Statistics and Labor Turnover, Bureau of Labor Statistics, U.S. Department of Labor, Washington, DC 20212; telephone 202-691-6567; (http://www.bls.gov/cew/); (e-mail: CEWInfo@bls.gov).

The CES program produces monthly estimates of employment, its net change, and earnings by detailed industry. These estimates are part of the Employment Situation report put out monthly by BLS.

The Job Openings and Labor Turnover Survey (JOLTS) program provides monthly measures of job openings, as well as employee hires and separations.